CLAIMS

What is claimed is:

1. A pump apparatus comprising:

a pump housing having a first pump chamber and a second pump chamber formed therein;

a first pump and a first swash plate engaged thereto mounted in the first chamber, and a first trunnion arm engaged to the first swash plate and extending out of the pump housing;

a second pump and a second swash plate engaged thereto mounted in the second chamber, and a second trunnion arm engaged to the second swash plate and extending out of the pump housing;

a first pump shaft drivingly engaged to the first pump and a second pump shaft drivingly engaged to the second pump;

an input shaft mounted in the pump housing and drivingly engaged to both the first and second pump shaft, where at least one end of the input shaft extends out of the pump housing and the longitudinal axis of the input shaft is perpendicular to the longitudinal axes of the first and second pump shafts, wherein the first and second trunnion arms are mounted parallel to one another and perpendicular to the longitudinal axis of the input shaft.

2. A pump apparatus as set forth in Claim 1, wherein the longitudinal axes of the first and second pump shafts are collinear.

3. A pump apparatus as set forth in Claim 1, wherein the first and second trunnion arms both extend out of the same side of the pump housing.

4. A pump apparatus as set forth in Claim 1, wherein the first trunnion arm extends out of a first side of the pump housing and the second trunnion arm extends out of a second side opposite to the first side of the pump housing.

5. A pump apparatus as set forth in Claim 1, wherein both ends of the input shaft extend out of the pump housing.

6. A pump apparatus as set forth in Claim 1, further comprising a first end cap mounted to the pump housing adjacent to the first pump chamber and having a first set of system ports formed therein, and a second end cap mounted to the pump housing adjacent the second pump chamber and having a second set of system ports formed therein, where the first and second sets of system ports extend into their respective end cap in a direction parallel to the longitudinal axis of the input shaft.

7. A pump apparatus comprising:

a pump housing having a first pump chamber and a second pump chamber formed therein;

a first end cap mounted to the pump housing adjacent to the first pump chamber and a second end cap mounted to the pump housing adjacent the second pump chamber;

a first pump rotatably mounted on the first end cap and a second pump rotatably mounted on the second end cap;

a first pump shaft drivingly engaged to the first pump and a second pump shaft drivingly engaged to the second pump;

an input shaft mounted in the pump housing and drivingly engaged to both the first and second pump shaft, where at least one end of the input shaft extends out of the pump housing and the longitudinal axis of the input shaft is perpendicular to the longitudinal axes of the first and second pump shafts; and

a first set of system ports formed in the first end cap, where the first set of system ports extend into the first end cap in a direction parallel to the longitudinal axis of the input shaft.

8. A pump apparatus as set forth in Claim 7 further comprising a second set of system ports formed in the second end cap, where the second set of system ports extend into the second end cap in a direction parallel to the longitudinal axis of the input shaft.

9. A pump apparatus as set forth in Claim 7, further comprising a mounting flange formed on the pump housing adjacent to the first set of system ports.

10. A pump apparatus as set forth in Claim 8, wherein the longitudinal axes of the first and second pump shafts are collinear.

11. A pump apparatus as set forth in Claim 8, wherein both ends of the input shaft extend out of the pump housing.

12. A pump apparatus comprising:

a pump housing having a first pump chamber and a second pump chamber formed therein;

a first end cap mounted to the pump housing adjacent to the first pump chamber and a second end cap mounted to the pump housing adjacent the second pump chamber;

a first pump rotatably mounted on the first end cap and a second pump rotatably mounted on the second end cap;

a first pump shaft drivingly engaged to the first pump and a second pump shaft drivingly engaged to the second pump;

an input shaft mounted in the pump housing and drivingly engaged to both the first and second pump shaft, where at least one end of the input shaft extends out of the pump housing and the longitudinal axis of the input shaft is perpendicular to the longitudinal axes of the first and second pump shafts; and

a first set of system ports formed in the first end cap, where the first set of system ports extend into the first end cap in a direction perpendicular to the longitudinal axis of the input shaft.

13. A pump apparatus as set forth in Claim 12, further comprising a second set of system ports formed in the second end cap, where the second set of system ports extend into the second end cap in a direction parallel to the longitudinal axis of the input shaft.

14. A pump apparatus as set forth in Claim 13, wherein the longitudinal axes of the first and second pump shafts are collinear.

15. A pump apparatus as set forth in Claim 13, both ends of the input shaft extend out of the pump housing.